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ABSTRACT

An action research project underway at Marist Sisters' College (a secondary school) in Woolwich (New South Wales, Australia) is the first phase in the evolution of an across-the-school commitment to Cooperative Program Planning and Teaching (CPPT). Project goals include establishing an infrastructure to develop a dynamic methodology for CPPT in the school; facilitating the achievement of the individual teacher's goals for CPPT; and widening the CPPT base in the school to establish a school-wide commitment to information skills. To establish an infrastructure, a school-based interdisciplinary management team was formed. The team identified characteristics of the school, teachers, and administrative staff that could act as catalysts and change agents. Barriers to program development were identified. Understanding the attitudes of teachers toward information skills was a necessary step prior to development of the project planning model. The model was applied to a year 7 science unit, in order to demonstrate the teacher's use of the CPPT approach. The program emphasizes the dynamic role of the teacher-librarian as a teaching partner and change agent for educational innovation. (Contains 13 references.) (SLD)

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EVOLUTION, NOT REVOLUTION: working to full school participation with information skills

Ross Todd, Celeste McNicholas, Yasotha Sivanesarajah

This paper documents the progress of an action research project currently underway at Marist Sisters' College, Woolwich. The project is the first phase in the evolution of an across-the-school commitment to Cooperative Program Planning and Teaching (CPPT). The key focus of this paper is the project's methodology - in essence, a strategic plan for teacher librarians wishing to undertake CPPT endeavours on either a short-term or long-term basis and aiming to establish a school-wide commitment to information skills.

UNDERLYING ASSUMPTIONS AND PROJECT RATIONALE

The project has as its framework a number of important assumptions about information and education. Firstly, teacher librarians accept that the challenge for education in the 21st century is to prepare students for a phase of social existence without precedent - the information society. Already many popular commentators in the fields of sociology, education, government and business recognize Australia as an information society in which more people are employed in creating, collecting, storing, processing and disseminating information than producing food, fibres, minerals and manufacturing products. An information-based society requires individuals with the ability to think, to reason, to solve problems, to analyse and synthesise information, and to create new information. (JONES: 1990)

Secondly, it is within this broad context of social change that education and learning are beginning to focus on approaches which value the cognitive, cultural, social, affective and technological developments of individuals. Increasingly we recognize that the process of learning is as important as knowledge gained and view learning as a dynamic, personal process that recognizes the worth of individuals and their need for access to information appropriate to their abilities, interests and needs. In other words, learning is now being seen as both content and process development in which individuals take in new information from experience, people, books, technology and other media, add it to their store of knowledge, and develop the understanding and skills they need to make a values-based contribution to the activities of various social groups to which they belong. Information, in this information society, is and will be the core of all learning.

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Thirdly, in the current educational climate, CPPT provides a strong rationale for cooperative work between classroom teachers and teacher librarians to help learners gain confidence and competence in information handling. Its focus is incorporation of information skills into subject content areas for the development of meaningful learning, understanding, reasoning and critical thinking and hence, life in an information society.

BROADENING THE COMMITMENT

Bridging the gap however, between professional acceptance of CPPT and the realisation of an across-the-school approach to information skills has not been easy. The idealism of the mid 1980s, inspired and fired by the workshops conducted by Carol-Ann and Ken Haycock, has given way to a pragmatic and indeed, appropriate acceptance that the CPPT process is evolutionary rather than revolutionary The complexities of introducing an integrated approach to resource based learning and information skills are many. Essentially it is a long-term project incorporating detailed planning and coordination of the many layers of practice within individual schools. This has not been made easy by constraints imposed through the recent and constant attacks on teaching and learning within schools. The contradiction is that schools should get back to the chalk-and-talk basics, but equip our students with the skills for life in an information society.

It was this very question of how to bridge the gap between a growing philosophical acceptance of the educational value of an integrated approach to information skills through CPPT and its application and practice on a school wide basis that stimulated the current project at Marist Sisters College, Woolwich. The process, after three terms is far from complete. The revolution has begun, we have set our course.

PROJECT GOALS

The project has several goals:

- to establish an infrastructure to develop a dynamic methodology for CPPT in the school
- to facilitate the achievement of the individual teacher's goals for CPPT
- to widen the CPPT base in the school and demonstrate the educational value of information skills across the curriculum and confirm the appropriateness of the CPPT process in achieving this goal. This will be achieved through a term long programme in Year 7 science specifically designed to meet the content, attitudes and skills objectives of the Science syllabus using an information skills approach.

STARTING POINT

(a) interdisciplinary team

To establish an infrastructure for the development of a dynamic methodology in the school, a school-based management team was formed. At the outset it was recognized that an interdisciplinary team should be established to form a nucleus for planning. Individual teachers who had previously participated in short-term cooperative teaching sequences with the teacher librarian were approached, and a team representing the discipline areas of science, business studies, religious education, English and languages was set up. The interdisciplinary composition was considered essential because it:

- places the process into a wider school context and legitimises the development of a school-wide approach
- brings together of a rich variety of teaching strategies and styles inherent in disciplines and different perspectives on the information skills process
- provides a forum for sensitively dealing with constraints and contradictions perceived as being imposed by syllabi, examinations, resources, library policies, time and work pressures, personalities and even approaches to student discipline
- promotes communication and the sharing of ideas among staff and
- allows teachers to own the information skills process and generates a climate of shared responsibility for the library programmes and the teaching of information skills.

A former teacher librarian and now lecturer in the Department of Information Studies, University of Technology Sydney was the one non-school team member who participated in the project. In its embryonic stage, the project was a late night discussion between the teacher librarian and the lecturer, whose position as an outsider brought skills of observation, analysis, synthesis and recording, allowing the practicing teachers to spend time in productive cooperation. Outside participation was not viewed as a sign of weakness or failure on behalf of the teacher librarian, far from it - after years of productive work as colleagues the position was seen as an extension of professional interest. Let's face it, five or six thinking, planning and teaching heads from different backgrounds, experiences and levels of expertise within and outside the school have got to be better than one! Seeking input from an outsider also provided a number of other advantages:

- it stimulated further acceptance of the validity of the integrated approach to information skills
- it enabled the process to be documented in an unbiased way
- it provided input in terms of the theoretical rationale for the various strategies implemented
- it piqued the curiosity of classroom teachers and
- provided an objective view of the process independent of the power structure of the school.

The role of any outsider needs to be played down within the school. If teachers regard the change as coming from an outside source, it may receive only half-hearted support because it is perceived as not being invented and developed in the school.

It was agreed that the team would meet regularly - on a weekly basis, and a fixed time was set aside. While such a commitment demands time and energy, the process of thinking about information skills, how they relate to established curriculum frameworks and how they might be integrated is essential over time for the effective implementation of resource based learning. Such a commitment cannot be made lightly. Commitment also generated a climate of reciprocity, openness, and responsiveness, and a positive outlook based on realistic expectations.

(b) Identifying particular characteristics of the school, its teachers and students that could act as catalysts / change agents

The first task of the management team was to identify the school's strengths and utilise these strengths in the development of successful strategies. At Marist Sisters College, several important characteristics were identified in brainstorming sessions at early meetings:

- an educational climate in the school receptive to new ideas and where new teaching and learning initiatives were fostered and supported by the school executive
- charismatic teacher librarian and an up-to-date library supported by OASIS

- a belief that growth and education come through balance and interaction
- an overall atmosphere sufficiently flexible and stimulating
- an open forum for advocates of change is maintained
- many school-based initiatives to involve students in the wider society and to prepare them to adapt to a life in the future, to adjust to change and to accept responsibly their role in society.

(c) Recognizing the barriers

Even though introductions at a full staff level had been made, for example inservicing staff along the lines of the telecourse "Information skills through the library", it was apparent that a full-school, top-down commitment to an integrated information skills programme would not be achieved by mass revolution. The slower, evolutionary process of working up from the classroom up seemed a logical way to proceed.

To effectively develop strategies for working with teachers at grade and subject levels, the team found it important to recognize where each teacher was at in terms of commitment to information skills. In fact, the recognition that staff were not at the same level of commitment mitigated against a full-on approach at the school level. We believe that many teacher librarians have become discouraged because they have attempted to work on a large scale inservicing all staff together, usually encountering a wide variety of philosophical responses to CPPT, and generating fewer productive encounters. A from-the-base-up approach makes logical sense in terms of current educational thought. Practice today centres on recognition of individual differences and the developmental nature of learners; in this CPPT context, teachers are learners, and any developmental programme must be based on individual differences in experiences, attitudes and skills. In essence the process of educational change needs to be an evolutionary, thus we have dropped the "r" from our revolution.

Despite individual teaching styles and personalities, characteristics emerged in terms of the stages of commitment to an integrated approach to information skills. The patterns developed from discussions with individual teachers (both those involved in CPPT endeavours and those not involved), from participants in the team, and with the teacher librarian, through exploration of attitudes, experiences and practices. Systematising the patterns to make sense of the range of teacher reactions was seen as the initial step in identifying teachers' levels of entry into the process. The following profile of teachers in terms of CPPT / information skills emerged:

TYPOLOGY OF CLASSROOM TEACHERS

PHASE 1 - PREPARATION

- see CPPT as time consuming; unable to conceptually integrate information skills process and syllabus requirements

- acknowledge themselves as the primary, if not the most important resource
- focuses on teaching rather than learning; "what do I say to people when they accuse me of not teaching, especially when their classes are ahead of mine?"; an integrated approach is not "teaching"

- see CPPT as threatening; are protective of classroom autonomy and control: "the students are mine"; very reluctant to let go of this autonomy

- nervous about the outcomes in terms of student learning

- are reluctant to accept that there are skills they don't know and that other's skills may be more relevant

- "this is my field - I know it; you don't" syndrome

- see the teacher librarian as information on tap rather than information skills on line

- become defensive when the teacher librarian asks questions about the how / why / when of information needs

- have feelings of uncertainty and apprehension

PHASE 2 - INCUBATION

- accept the philosophy of information skills as educationally sound but do not value the practice as highly as the philosophy

- show awareness of enquiry and problem solving as teaching strategies - recognize that learning how to learn and the concept of lifelong learning are important

- willing to attempt innovative learning programmes

- often express feelings of optimism but without direction: "where do I start"?

- still uncomfortable with someone else in the classroom, particularly in terms of disciplining students

PHASE 3 - ILLUMINATION AND VERIFICATION

- are prepared to tell others that they have tried it and that it can work well
- are willing to try again - they recognize that professional development of the class teacher can be enhanced by cooperative planning and implementation of programmes
- often equate measure of success with how comfortable or uncomfortable they feel with the process; however, despite setbacks, they are likely to come back
- still feel the pressure to cover content in given time allocation
- don't have a problem with the teacher librarian in the classroom and recognize that discipline problems are student-centred rather than the teacher being on trial
- place some emphasis on building a strong teacher - teacher librarian working relationship

PHASE 4 - COMMITMENT

- are committed to regular planning meetings with the teacher librarian
- are not intimidated by teaching in front of other colleagues: rather, feel that the teacher librarian is there to facilitate teaching and learning
- are willing to share success and failures with other teachers
- see CPPT as giving them a sense of new direction and teaching confidence which takes staleness out of teaching
- recognize the capabilities of the teacher librarian as a facilitator of information skiiis and a key learning resource
- encourage students to be responsible for their own learning
- keep students and their learning needs as central focus

- believe that the syllabus and the information process are compatible within specific time frames, not mutually exclusive and therefore dependent on very carefully planned sequencing of tasks

- insist that task development must always include the process of building higher order information skills rather than just regurgitation of facts. If the planning process is not approached in this way, then curriculum content and information skills become exclusive

- recognize that students should see curriculum content as validating the information process and vice versa; work to establish credibility of the integrated process from three perspectives - the classroom teacher's, the teacher librarian's and the students'

- place importance on the ability of students to transfer information skills between disciplines and within experiences of every day life in an information society

- are initiators rather than just followers of CPPT endeavours

Developing a profile of classroom teachers enables teacher librarians beginning CPPT endeavours in their school to target likely candidates with a higher probability of success. It enables teacher librarians to develop a sense of timing and to act strategically, knowing what objections might be raised and having ready answers for them and to give guidance and encouragement, not power control. It also enables teacher librarians to be prepared for rejection!

MOVEMENT THROUGH THE PHASES

Understanding where classroom teachers are at in terms of their involvement in the process is an important starting point in developing strategies for moving teachers through the phases. The typology helps to identify both fears and real needs, as well as an avenue for progression past those fears to meet the needs. At Marist Sisters Woolwich, it is recognized that the process of building up a commitment to information skills in practice is essential before any co-ordinated whole school policy can be established. This across-school practice commitment is still some time away, and rightly so. It is believed that an integrated CPPT approach to information skills at the macro level works best when commitment is both philosophical and experiential at the micro level. We suspect that in the past, failure of teacher librarians to recognize an adequate level of practice commitment prior to full-school cooperative effort has resulted in disappointment, frustration, and abandonment of CPPT due to the perception that teachers lacked interested in the process. To have classroom teachers initiate the process and realise its value, importance and success through individual experience formed the basis of the management team's approach to facilitating development at Marist Sisters Woolwich.

PRE-PROJECT STRATEGIES

These focused on building a commitment in principle to the philosophy of an integrated approach based on a sound educational rationale and through a cooperative process. Strategies familiar to most teacher librarians were used:

- staff meetings and departmental meetings on the information skills process, with the focus on the learning outcomes for students handling information in an information society

- taking time to explain to individual and discipline areas how curriculum frameworks increasing draw on an information skills approach

- explaining how curriculum frameworks already highlight the concept of "inclusive curriculum" (for example, policies of gender, ethnicity, race, disability, equity and excellence); information skills should be treated as an included curriculum

- making sure the successes are shared, giving public kudos to teachers involved

These strategies certainly created an awareness of the value and importance of an integrated approach which is evidenced in the development of the typology. In spite of all that had gone before, encouraging teachers towards practical participation was not easy. Any approach based on preaching or bulldozing would be destructive and in order to work toward integration, several evolutionary rather than revolutionary principles were essential:

- deal with concerns by example, not argument

- be sensitive to the constraints under which teachers work - within the school and the broader educational environment

- do not allow it to appear as though you are taking over and

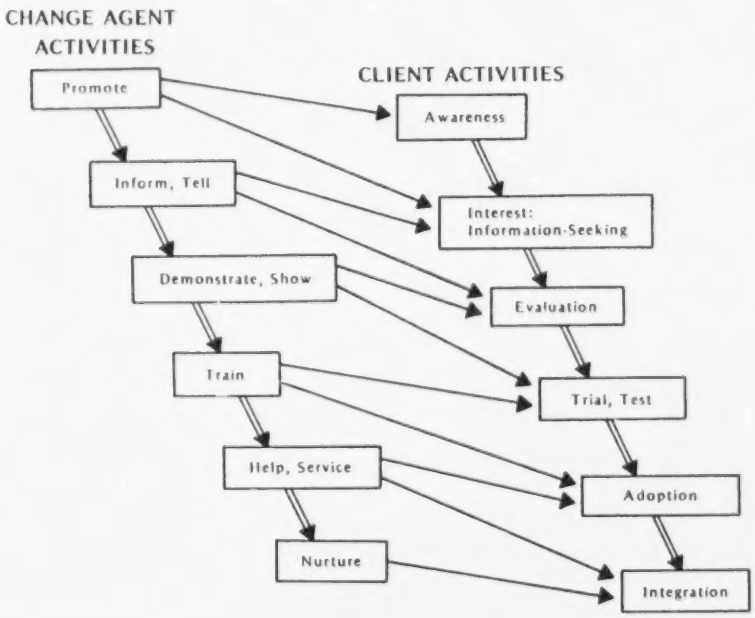
- allow for open discussion and conflict resolution.

Strategies adopted at Marist Sisters Woolwich for developing a practice commitment and facilitating teachers through the process were based on Havelock's model of the change agent in innovation for education (Havelock, 1973). This model is a dynamic, evolutionary model that

focuses on practice and demonstration as the basis for activating change and bringing about practical implementation across the school. At the same time it provides a conceptual orientation, a way to organise thinking and planning.

The model has an important theoretical foundation drawn from psychology and information science. It is viewed as a process of construction in which people build their view of the world by assimilating and accommodating new information. The Personal Construct Theory describes feelings that are associated with phases of change. When people initially confront new information or innovations, they commonly experience doubt and confusion, escalating as they encounter increasingly confusing, sometimes contradictory messages. The experiences can become quite threatening, causing them to consider turning back and abandoning the new ideas. To move forward, people need to test and assess the new innovations in order to form changed perceptions. (KUHLTHAU, 1989) This sense-making process has as its basis the process of evaluating, trialing and testing before adopting a practice commitment and before enabling a dynamic and committed school-wide approach. Kuhlthau's research of information seeking behaviour and meeting information needs of clients supports this process: perceptions determine expectations which direct actions and behaviours: perceptions change with experience, which is how learning takes place.

THE MODEL OF CHANGE AGENT IN INNOVATION FOR EDUCATION



The model is enabling the interdisciplinary team to facilitate the involvement of classroom teachers through the various stages. It is a clear, directed approach to broadening the

experience base of teachers in terms of CPPT. By understanding perceptions, as identified in the typology, the possibility of directly mediating and educating is opened. The "promotion" and "inform, tell" stages have been accomplished by procedures outlined in pre-project strategies, and did, as predicted, generate awareness and interest.

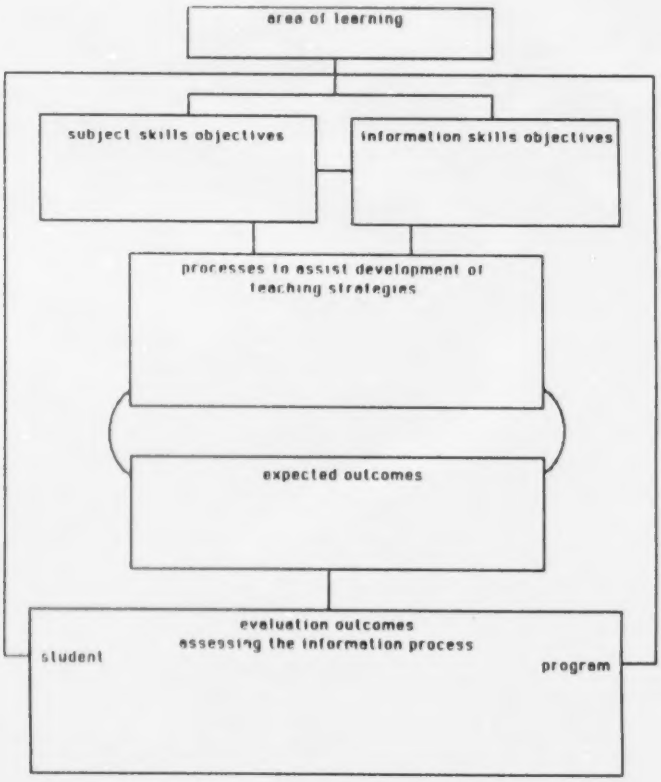
Two important change agent activities have been devised by the team to initiate teacher action:

- development of a general planning and lesson sequencing model to show, train, help, serve and nurture classroom teachers into the process and

- development of a large scale CPPT endeavour demonstrating to the school community the educational value of a cooperative information skills based approach through a term long programme in Year 7 science. Specifically designed to meet the content, attitudes and skills objectives of the Science syllabus using an information skills approach.

These activities will enable teachers to evaluate, trial and test before full-school adoption, integration and policy reform.

PLANNING MODEL



The planning model, developed by the interdisciplinary team, was designed to be simple and flexible, easily adapted to suit classroom teachers at their various stages and an equal-partnership base for them to work together with the teacher librarian.

Advantages of the model

- helps to clarify team teaching roles in the dual partnership without an enthusiastic teacher librarian possibly swamping the teacher; also clarifies the nature of the roles during teaching stages - such as presentation and support roles
- makes provision for staff to articulate their preferences and thoughts
- is a quick, easy and meaningful way to record shared decisions and dual commitment to the process
- forms the basis for the essential, strong planning that reduces time demands on both teachers and teacher librarian
- gives an immediate focus to the development of ideas and to the design of the unit to guarantee that it will work smoothly
- because the model establishes an overall context, it provides an easy way to record modifications, and to make changes - another good investment over time
- enables teachers and teacher librarian to articulate openly the knowledge, attitude and skill objectives to be introduced or reinforced
- it focuses on learning strategies and outcomes for students based on common goals of teacher and teacher librarian
- generates short, decisive meetings that are goal-based
- ensures a rich continuing sequential learning experience for students
- provides important focus on assessment - how / when student achievement of unit objectives are to be measured; criteria for assessment; responsibility for assessment; and also evaluation of the cooperative process

- can be applied at the individual lesson level - it provides a simple methodology for planning, implementing and evaluating each lesson; at this level it helps to identify specific teaching strategies, learning experiences and in terms of evaluation, facilitates the identification of strategies that were successful and those that require improvement or re-negotiation

- facilitates future unit programming by developing systematic ways of and negotiating units based on cooperative ventures

- enhances the profile of the teacher librarian - demonstrating that the teacher librarian is not there to offer remedial support or as caretaker of the books nor to rescue teachers from ill-prepared research lessons but as a skilled, resourceful teacher with a central rather than a marginal role

- ensures process and outcomes are agreed upon prior to implementation, that the team is working unitarily and harmoniously

- enables resources to be adequately planned

APPLICATION OF THE MODEL

The following is the classroom teacher's rationale for CPPT for the Year 7 unit: "Living Things".

"This unit on "Living Things" is taught for 10 weeks to year 7 students. Students require a large number of science and information skills to learn, understand and remember the facts taught in this unit. "Chalk-talk" and the practicals that follow in the unit appear to be totally inadequate as strategies through which the students may learn the content nor do they serve to arouse student curiosity in the topic The CPPT approach identifies learning as both content and process based. It gives students an opportunity to evaluate what they already know about "Living Things" and encourages skills such as critical thinking, observation, classification, identification and interpretation. During the study of this unit scientific terms are introduced for example waste -> excretion, and the students are encouraged to think "scientifically".

DESCRIPTIVE OBSERVATIONS OF TEACHING SEQUENCE TO DATE

When this paper was submitted for publication, the implementation of the Year 7 Science unit had just commenced. The following comments were made by the external team member who observed the lessons. Teachers in the school had been made aware of the teaching sequence

and were invited to discuss progress, ask questions and observe the classes. This conformed to the "demonstrate", "show", "trial" and "test" stages of the change model. It needs to be pointed out that the teacher librarian is working with a Phase 4 teacher - one who is committed to CPPT in practice (a phase 4 teacher is important when demonstrating a success to other staff members) - someone who has worked with the teacher librarian on several previous occasions. In addition, a previous teaching sequence with the particular class had established some information skills, particularly in relation to the library's system of organisation and control of resources.

Comments on partnership

- Teaching roles focused on science skills and information skills appearing to merge, with no clearly defined boundaries; rather there was a logical, natural and smooth transition between lesson components. The general knowledge of the teacher librarian in the science content area and the science teacher's sound knowledge of the information process facilitated this.

- The teaching duo clearly anticipated one another, supporting and building on each component of the lesson. Careful planning and a strong professional working relationship contributed to this.

- Both owned the teaching process. The lessons were unified, working towards clearly defined learning outcomes, rather than fragmented sections with doubtful ownership.

Comments on teaching / learning strategies

- As an introductory strategy parameters were set that highlighted student learning. Emphasis was placed on problem solving and thinking skills, the richness of learning experiences and the development of a healthy curiosity.

- Initially lessons focused on the scientific classification of living things, and the complementary classification of knowledge in libraries. The interplay of science skills and information skills was established right from the start.

- Brainstorming activities were used on many occasions to facilitate:

  defining: clarifying tasks, identifying and understanding key words - both in relation to science skills and information skills;

locating: recalling information from previous experience, identifying limitations, identifying sources for additional information.

selecting: using key words to locate potentially useful information within sources; how to identify information linked with the task; deciding what to do about deficiencies within information; developing strategies for recording information.

It is interesting to note that while one teacher led the brainstorming, the other teacher built up on the blackboard a concept map of the key words to record the decisions made by students.

- Students were constantly placed in a decision-making context; students were challenged to think and reason, to make decisions about information and take the responsibility for their decisions and actions. A strong feature of the lessons was that students were given time to think; their decisions were questioned, not because they were inappropriate, but to help them recognize the value of thinking and the need to take time to consider the outcomes of their decisions. Students need time to develop their information processing and evaluation skills.

- Learning activities were simple. CPPT in the classroom does not need to be a time-consuming exercise where teachers and teacher librarians develop complicated, creative and exhausting approaches, largely to prove to others that they are expert teachers!

- Emphasis is placed on oral communication skills - the ability to present and share ideas is important, not only in developing a content knowledge base but also as an important information skill.

- Faith! Students were aware that they had to complete a major research project later in the programme. At this stage, that is all they knew and were in a situation where they had to accept in faith that the strategies they were working through would facilitate this. This was an important challenge because it placed emphasis on handling information rather than on just acquiring content to complete a task.

- Role of teacher librarian and teacher in the library was consultative rather than instructional.

- The first library-based activity emerged naturally from the initial brainstorming sessions relating to classification of living things. Once the scientific knowledge base was established, focus shifted to developing skills of identifying and assessing usefulness of sources, using previously developed keywords to evaluate the appropriateness of information and exploring a range of options for presenting information. Students were not permitted to write down content rather, they were asked to read and focus on decisions about information. Rather than being told what to do, students were encouraged to plan strategies to complete the task on time.

  As a follow-up activity students discussed the strengths and weaknesses of the learning process. They indicated that being asked to think about how they might solve an information problem made their task easier. During class time, while the teacher-librarian addressed student concerns, the classroom teacher dealt with issues relating to the science content. Organisational skills demonstrated in this introductory activity were quite extraordinary; the students were not told what to do, rather they developed a method for dealing with both science and information issues.

CONCLUSION

The project at Marist Sisters College Woolwich has focused on developing a methodology for implementing an across-the-school practice commitment to information skills through CPPT. It gives emphasis to the dynamic role of the teacher librarian as a teaching partner for meaningful learning and a change agent for innovation in education. The project is in its first stage. The school infrastructure to facilitate the process is firmly established and is working to build success from a practice base. There is a strong commitment to excellence, yet a recognition that the process is evolutionary . Such a process assures success, provides direction and meaning, and promises a challenging future for those who dare to take it on.

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